

# Plenary Session 4 on the value of protected areas for fauna conservation

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**CHAIR: CHRIS DICKMAN** (University of Sydney).

**PANEL: SCOTT BURNETT** (University of the Sunshine Coast), **JENNIFER ANSON** (Australian Wildlife Conservancy), **CHRIS SLADE** (Forestry Corporation of NSW), **DIETER HOCHULI** (University of Sydney), **TANYA LEARY** (Office of Environment and Heritage NSW).

**CHRIS DICKMAN** (University of Sydney): We have come to the concluding plenary for the day. What I'd like to suggest is that we begin by having the first 10 or 15 minutes of questions directed at the speakers in the last session, and then try to draw together some broader themes that people have touched on across all the sessions. And just a reminder too: if you're asking a question, please state your name and affiliation.

**JACKIE COUGHLAN:** (ecological consultant). As a consultant, we are often asked to look at the potential impacts of a development on flora and fauna of some quite scrappy, small pieces of vegetation and fauna habitat, whether these be railside or roadside patches, whatever. I personally think they're all important, or may well all be important, but if they don't have threatened species in them and they're quite small and there's something bigger nearby, that's the end of it. I'm not necessarily talking about my own work, but I can't tell you how many times I've read things that say, "Well, it doesn't matter because there's a reserve over there, or the patch contains no threatened species". For small patches, that's the end of the story. There is no argument at all to conserve those smallish remnants that don't support habitats for threatened species that you know of from the two-minute diurnal survey that you did.

What do we do about that? What is a valid argument or, given everything that's been said today, particularly what Harry had to say, is it really just a waste of time and money to bother trying to argue to protect the small, urban stuff that doesn't support threatened species?

**DIETER HOCHULI:** (University of Sydney). I think that's a really important question. It raises the issue of habitat damage generally. The ultimate concern here is if you have a black and white case: does it contain, or not contain, threatened species? But there's a case for thinking about another context: that there's a value for some of that vegetation outside the legislative perspective, for example social or cultural. We get driven by the legislation, but the reason we're probing further is to try and see how we can actually go beyond it. I suppose there's some scholarship in saying there's

good evidence that you should need urban vegetation for other reasons. So, in terms of being a consultant, I realise you're bound by strict decision rules, but I guess it's industry's obligation to say, "Well, hang on, there's some work that shows this vegetation has other values". So that's my view.

**JACKIE COUGHLAN:** I thought that comment was interesting and my first reaction was, nice idea but it won't happen, because I'm an ecologist. I've been engaged to do the ecology section of the report. Someone else will be looking at social values or economic values or noise or visual amenity or whatever, and so if I want to conclude that some vegetation really has no ecological value, but it's a nice idea to conserve it, then I'll just be told to delete that. But I know what you mean, and I'll squeeze it in if ever I can.

**DIETER HOCHULI:** That's why I've been in the ivory tower, but I think it would be worth it to get someone else's perspective.

**TANYA LEARY:** (Office of Environment and Heritage NSW). It is a really hard question, because what's a glass half full, a glass half empty? Certainly in terms of the Cumberland Plain, what's happening there is that there are so few old trees. I was surprised we even had bats, and there are very few trees with hollows. What I suspect, for some of those species that move, it can be 2 km between their roost and the path to where they feed. They are exiting off the development sites. So, what I see happening is that developments happen and they take out the one or two single old trees, and that's when we'll see a collapse of some of these bat populations.

Yeah, but then you go on to the scale of the conservation issues facing New South Wales, or Australia, and it's probably really trivial. Harry's point of, well, why are you trying to resist - urban development is good, but I have my own task to work with those scrappy areas out in the western suburbs, so I have to like the habitat patches that remain.

**ANNE KERLE:** (consultant from west of the mountains). The title of this seminar is The Value of Protected Areas for Fauna Conservation, and just thinking about that in relation to probably all the talks we've had today, I'm throwing this comment into the mix at this stage. The thing that strikes me is that we need to get back to Martin's original slide where he had the beautiful image of the edge of Mount Egmont National Park surrounded by agricultural land. It seems to me that protected areas are the pinprick in amongst vast areas of agricultural land, which we haven't

really dealt with, except in Bill Gladstone's comment about the fact that we need to be talking to people like recreational fishers. We need to be talking to the people who manage the bulk of our land.

Bill made the comment that recreational fishers see themselves as the original conservationists, as do most of the landholders I talk to. I spend most of my time talking to landholders, getting a lot of information from them, making sure that I listen to what they have to say because they do carry an enormous amount of knowledge. They are responsible for caring for all the land that allows species in many of these pinprick sites to move between the habitats that they need.

So, the point that I'd like to throw open is, are we really addressing the issue of what is surrounding these pinpricks, which I do think are important? Don't get me wrong. I think we need protected land, but we need to engage the people who are managing the bulk of our land to look after and manage fire appropriately and ensure that they're changing their grazing regimes to improve carbon storage and all these sorts of things. I think it behoves us to actually start that conversation much more strongly, and maybe we can then start working on a landscape scale, albeit a little differently from Harry's concept, I suspect. My belief is that we need to open ourselves up a little more, from what I've been hearing today. So I don't know whether that's more of a statement or whether somebody would like to have a comment on it.

**SCOTT BURNETT:** (University of the Sunshine Coast). I agree with you. I'm sure everybody here does as well. I think we can engage - well, in doing this already we've changed attitudes about spotted-tail quolls, as an example, and quolls in general and also iconic species such as koalas. Sometimes there's a little resentment about resource allocation going towards the cute, cuddly things, but we can use them to engage the community and we can use them as umbrella species. We can use them in their own right. We can use them to establish citizen science projects, which are really starting to get ownership by landowners, and also for land management.

So I think there is a bit of that already, but you're right. We all need to be much more active, I think, in engaging the general public. It's the least attractive part of our jobs as ecologists, and most of us get into this field because we prefer animals to people.

**ANNE KERLE:** You can use icon species to open these discussions, it's true, but my perspective is a little broader than that. For example, you look at pictures that were shown in the first session this morning of the water coming down the Hawkesbury and changing the colour of the adjoining sea. The landholders I'm talking about are actually responsible for the quality of that water that's coming down. They're responsible for making sure that the land actually is functioning in a healthy manner.

We need to make sure we broaden our perspective to incorporate landscape function.

**HARRY RECHER:** (Australian Museum). I have a question for the Nature Conservancy. In Mount Gibson, in particular, when I look at your list of species that you're putting into Mount Gibson and Scotia, and every place else where this game is played, it's unbalanced. There are no predators, and you run two risks, one that the populations are going to grow, and two that they will degrade their environment, which is probably what we've seen happen at Dryandra where woylies and numbats have crashed. Woylies did terrible damage to Dryandra as their populations built up.

It seems to me that if you don't introduce organisms that will help control the populations of those threatened species that you're putting in there, you run the risk of getting into a boom-bust type cycle such as Chris described for the arid zone. It requires very sophisticated, ongoing management. I'm not saying you shouldn't do this, but you really need to be aware of those potential problems and do something to attack them to begin with.

**JENNIFER ANSON:** (Australian Wildlife Conservancy). I completely agree with you, and the thing that's important at the moment is that it's about providing safe predator-free spaces. So this isn't necessarily a long-term solution, and populations can get quite unbalanced. I don't know if you remember one of my slides showing one of the species that did well after it had been introduced in the second stage at Scotia. That was because there was too much competition with another species in the first stage and it increased when on its own. So you don't need to have those problems between species, especially when introducing something like a top predator when you've got very small populations left in the wild.

So I think it's something that is very important to be aware of, but I think because we're starting off, it's more about safeguarding the species initially.

**STEPHEN AMBROSE:** (ecological consultant). I have a question for Tanya. I noticed, Tanya, you didn't mention in your talk anything about the inner western Sydney population of the long-nosed bandicoot. Does it still exist?

**TANYA LEARY:** Yes, there is still at least one bandicoot population there. I don't know how many more there are. We keep getting them turning up in some odd places. We also recently got one in Alexandria in the middle of the industrial area. Why it was there, I have no idea.

**JACQUI MARLOW:** I belong to Sydney Wildlife but I go to a lot of the wildlife conferences as well and definitely - I know in the Northern Beaches I've got my own resident bandicoot in my back garden, with a female who's doing a good job of populating the back garden at the moment; very pleased, and she likes

banana. But the WIRES paper was put out by a girl. She was doing post-grad at Sydney and she definitely had bandicoots in the inner city.

**TANYA LEARY:** Yeah. I mean, we know there's at least some there.

**ALAN STEWART:** (consultant.) Getting back to the enclosures, I notice in Scotia that you're going to have four stages and I'm wondering whether they are going to remain discrete with the subdivision fences maintained; and if so, does that give you an opportunity to manipulate the populations just as a farmer would move a flock of sheep from one paddock to another?

**JENNIFER ANSON:** (AWC). Those areas were always designed to be discrete. We don't want to keep animals behind fences. That's not a long-term solution, but it's the only way to safeguard those populations. There have been numbers of trials of reintroducing animals into these areas. They have intensive predator control as most of the animals have been very quickly preyed on without it - we can bait foxes and use ejectors, but then we have massive cat influxes. Until we face the cat problem generally we'll have to use fences as the solution to the cat problem. It doesn't look feasible to do anything else, but we are simply trying to move panels out of the fence areas and into different areas and trying to manipulate it a little bit. Yes, there is definitely room to do that kind of thing.

**MAT VANDERKLIFT:** (CSIRO). I've been waiting to see if I was going to get clear articulation from speakers about what the objectives were. I got one today. I got one this afternoon from Jen's talk. Thanks very much for that, Jenny. It was a good, clear objective that you gave at the beginning of your talk on what AWC is about, the conservation of species and going on to describe what AWC is doing for mammals. So what's AWC doing for the other faunal objectives?

**JENNIFER ANSON:** You mean other animals?

**MAT VANDERKLIFT:** The non-mammal fauna, if I can put it that way.

**JENNIFER ANSON:** I tend to focus on mammals because that's where my interest is, and I think AWC has some focus on mammals because we're funded by donations, and people like mammals. But there are also huge numbers of other species in the sanctuaries, high reptile diversity, for example, and all of these are both conserved and studied. So it's not just the mammals. It's just that's what I was presenting today.

**CHRIS DICKMAN:** One of the things that came through to me was that we're not dealing with fixed boundaries, with lines on maps. Fauna can and do move into and out of protected areas. Even if you have fauna within a protected area there are threats from outside that

can come in and affect them. Some of the protected areas are also very small. A number of people touched on all of those points, but also said that there is a very important human dimension, and this comes in a number of forms. One is that just being close to nature, no matter if it's a small handkerchief park as Tanya Leary talked about, or one of the other small areas, they can be very important from the point of view of human wellbeing. That's one thing that came through.

Another is that, from the point of view of getting people used to the fact that we do have an endemic biota, a really fascinating endemic native fauna and flora, it might help to engender more of a 'sense of place' that a number of people touched on, though not using those words, and that might be another value of trying to protect fauna in areas of different size. Is that a topic that we could perhaps think a little bit more about as a theme in a number of talks? Would anybody like to comment on that? The human dimension: what do we do to improve people's understanding, awareness and appreciation for fauna in protected areas?

**TANYA LEARY:** I was very rushed through my talk but actually I think western Sydney is where the population is growing quickly around Sydney, like it or not, and I see one of the biggest values of the small handkerchief parks is that they give people an introduction to the bush and an appreciation of the animals there. And I think national parks have a very strong role to play in getting people over the idea that their house is going to get burnt down or that snakes are going to come into their backyard, but I see it had big value in these discussions.

**HARRY RECHER:** Chris, just to follow on from what you were saying, you might be interested in why the science committee back in the late 60s, and then Wyn Jones and I, with respect to Scheyville, were so determined to try and protect those remnant areas that you're working on now. A primary reason was that we saw the need of retaining within the growing metropolitan area breathing space, green areas with wildlife for people to enjoy and relate to nature; and it doesn't matter if they're native species.

I've counted birds in Kings Park, Perth, since 1986 and after you walk up and down four times a month for five years, people who jog through the park get to know you and they would stop and ask you, "How are the birds today? What did you see? What's unusual?" and I'd ask them, "What do you like?" You know what they liked? They liked rainbow lorikeets and kookaburras, neither of which is native to Perth. The point was that there was something near that was alive and made noise and they could see and enjoy, and that's very important. It's particularly important with those urban areas where people don't get outside anymore. They don't go to the national parks a long distance away. They're worth keeping.

There's another reason why they're worth keeping, though. Jones and I didn't know it when we agitated for Scheyville, but it's incredibly biodiverse. Forget about the birds, forget about the mammals; I recorded more than 1200 species of arthropods from just the two dominant eucalypts in Scheyville, from a total sample of 80 trees. 1200 species! What's even more remarkable when you think about biodiversity is that of those 1200 species, 90% were undescribed and remain undescribed. That is the only place in the world where those species may occur. They may be widespread but it's so important to maintain these areas in habitats like the Cumberland Plain which is unique, and these are all vast opportunities.

**ENHUA LEE:** (ecological consultant). I really don't want to introduce too much of a negative vibe here. We are amongst our own people here and I'm just noting in one of the earlier talks that we had today of politics coming into play and using our forests as a resource for logging, for forestry; although I acknowledge the talk by the State Forests people. We have politicians, obviously, at the moment who are very intent on dismantling a lot of our protected areas and, you know, these are public people going on about how we've got too many areas locked up. So would anyone like to comment on that?

**DEBBIE ANDREW:** As a representative of OEH/ National Parks - the National Park system is protected under legislation, and it does take acts of parliament to remove them. So that's as strong as we could probably get in our society, and I think it is important that the community expresses its views on these issues, particularly now, and you could see that one of the issues where it made a big difference was the hunting in national parks campaign. Sad to say, it still happens in State Forests, but it was the community's outcries largely - it didn't matter what the National Parks officers said - that changed the politics and enabled the government to get rid of the Game Council and get rid of hunting.

So while we don't have such a favourable political situation as we may have had under Bob Carr or Neville Wran, it's still really important that the community speaks up on these matters of conservation and protection of biodiversity, flora and fauna, and that we engage with young people, because a small number of motivated people can make a big difference.

**PAT HUTCHINGS:** (Australian Museum). I'd like to follow up on a point that Harry Recher made. He was saying that - and I also mentioned it in my talk - a large percentage of the fauna out there is not described, and yet every single museum in Australia is suffering financially. We are losing the people that can go out there and actually describe the fauna. So it's a very sad case, and we are presenting a paper in two weeks' time in Canberra where we're looking at the future of marine science research. I don't think anyone's going to listen, but we're at least going to tell them that we need to have some more

taxonomists to understand what biodiversity is out there, let alone learn how to manage it.

**JACQUI MARLOW:** In the Northern Beaches of Sydney we have had quolls definitely run over on the Wakehurst Parkway. At the moment the RMS is proposing a massive upgrade of Mona Vale Road from basically Terrey Hills to Mona Vale, and at the same time the State government is trying to open up the Ingleside precinct, which is the equivalent of five Elanora Heights suburbs. What kind of area is the minimum area that we need to have for quolls in a peri-urban environment?

**SCOTT BURNETT:** There's no simple answer because it comes down to a case-by-case basis. It depends on what the density of quolls is and how evenly they're distributed in any one place. So it would be dangerous to say, even though that's what I was doing in my talk, that you can come down and say that on the Northern Beaches of Sydney you need 560 odd square kilometres to preserve quolls. It would be misleading. We had a similar situation in Brisbane where we have quolls starting to turn up in the suburbs and we've looked and looked and looked in all the adjacent bushland areas, and we can't find them.

We need to think about the mobility of resident quolls, as well as about dispersing quolls. - I remember a newspaper article, with you in it, with a quoll that had turned up - was it 50 kilometres away?

**JACQUI MARLOW:** Yeah, it was trapped at Elanora Heights. I can tell you exactly because that one we know was on Mother's Day 1993.

**SCOTT BURNETT:** Yeah. I don't remember, but I bet it was a male quoll.

**JACQUI MARLOW:** It was a male.

**SCOTT BURNETT:** This is what we find too, that in the outskirts of Brisbane a handful of road kills, we've been finding all males. I don't think they indicate the quoll population in that area. You might get some leverage for some habitat mitigation by using them, but I wouldn't take a couple of road kills as an indication of a population. You've got to be careful about reading more into it than there is

**JACKIE COUGHLAN:** I wanted to ask Scott something about the quolls. I'm glad you brought it back to quolls. You said that you calculated that roughly an area of 576 square kilometres might be an indicative area that you would need to maintain a population of 100 quolls based on females. What's the relevance of the 100, though, and what's a population for quolls? You're saying a random quoll in the suburbs might be dispersing. Where's the population? How big is it likely to be?

**SCOTT BURNETT:** 100 is just a round number which



has been bandied around in different fora as a minimum population size. It comes down to the way that the genetics of a species work. I used 100 in this case because I'm most aware of the north Queensland situation. About 100 individuals is around about the size of sub-populations, as well as we can work out. That may be hopeless in terms of whether it can be sustained over 100 or 200 years. Because I was talking in very broad terms, I want to be careful that I was being as conservative as possible. So the population size I was using there was 100 purely for that reason. There's nothing more to it than that.

**CHRIS DICKMAN:** I think we'll need to draw a line at this point and look at the last question and answer as being on the glass half full side of things, but perhaps quolls will do okay with 100 or more, irrespective. Thank you for the broad range of questions and comments and ideas that you brought forward in this last plenary. I'd like to thank everybody for your contributions. I'll hand over to our president, Martin Predavec.

**MARTIN PREDAVEC** (President of the Royal Zoological Society of NSW): Thank you, Chris. I would

just like to say thank you to all the speakers that we've had today. The talks have been truly wonderful, so thank you. I'd also like to quickly thank the organising committee, Dan Lunney, Pat Hutchings and Chris Dickman, for organising all the talks today, Pat also, and the Australian Museum for the wonderful location, Adele Haythornthwaite for managing the timing and Peter Banks for the computer today. I'd also like to thank everybody in the audience for participating so enthusiastically in all the questions and the plenaries. It really is what makes these forums the success that they are. So thank you, everybody, for turning up today.

We are going to have the Annual General Meeting of the Society in about three minutes. So if you can stay, we'll try and make it very quick and we would appreciate your attendance. If you are leaving, you'll need to leave through the William Street entrance where you came in because the other entrance is now closed, the museum is closed. So we'll just take a break for a couple of minutes and then we'll start the AGM. Thank you, everybody for today.

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## PHOTOGRAPHS



Vicky Cole

(All photos by Dan Lunney)



Scott Burnett



Jen Anson





Chris Slade



Dieter Hochuli



Dieter Hochuli



Tanya Leary



#### Plenary 4



Panel (left to right) Chris Slade, Jen Anson, Scott Burnett, Tanya Leary and Dieter Hochuli



Audience.

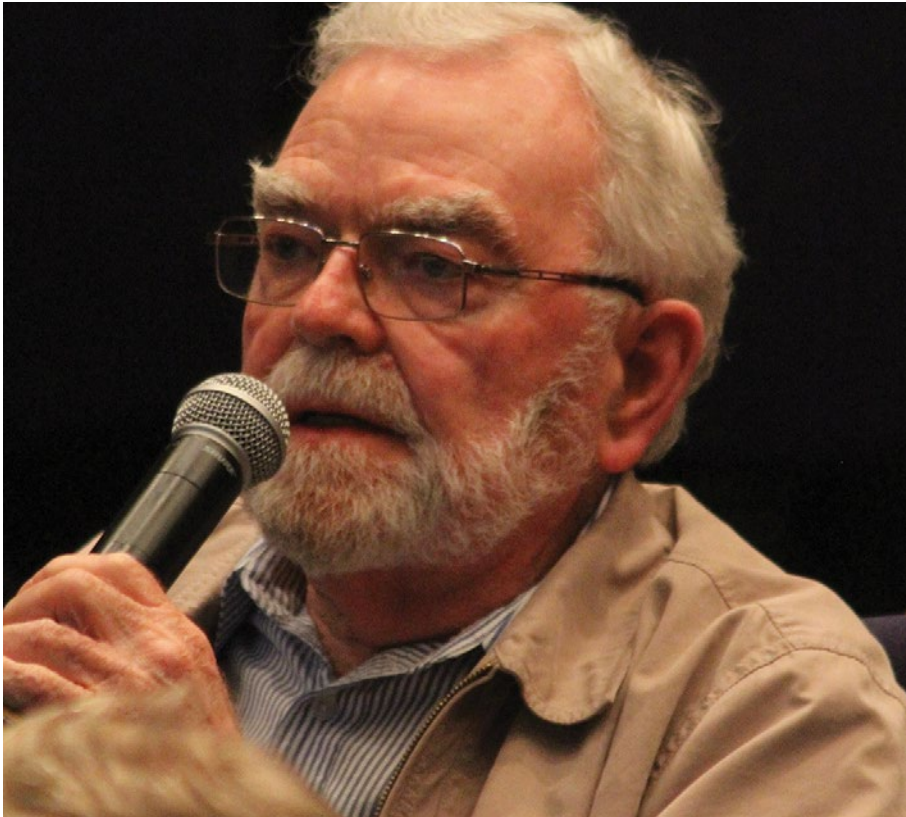


Harry Recher in the plenary session



Anne Kerle





Alan Stewart



Jen Anson



David Priddel



Martin Predavec